First Iron Bridge
in the United States

Patrick H. Stakem
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Brownsville, Pennsylvania is the site of the Nation's first iron bridge, the Dunlop's Creek Bridge, along the National or Cumberland Road, built west from Cumberland, Maryland, to the Ohio. Cumberland was already linked to the Port of Baltimore by road, and would be connected to Baltimore by the B&O Railroad in 1842, and to Washington by the C&O Canal in 1850.

According to Hulbert, “The Cumberland Road had been undertaken by the National government after Ohio entered the union, as a means of solidifying the political and commercial alliances between the new western states and the states on the Atlantic seacoast. From the beginning, its route had been passionately contested. After much debate and study it had been determined that locating the terminus points at Cumberland, Maryland, and Wheeling (West) Virginia, would interfere the least with state sponsored roads. This route would also allow equal access to the seaport towns of Alexandria, Baltimore and Philadelphia. It would be up to each state to connect their port city with Cumberland, or another spot on the National Road.”

The National Road was constructed 1811-1818, under the order of President Thomas Jefferson, as part of a larger plan of “Internal Improvements.” The National Road provided access to the Ohio River, at Wheeling, West Virginia (and later was extended to Zanesville, Ohio) from the Eastern Seaboard.

The National Road was a Federal Project, but the bridge over Dunlop's Creek was not included, but became a local responsibility. Dunlop's Creek empties into the Monogohela, and Route 40 has been re-routed in the area since the initial line of the National Road.

Dunlop's Creek proved a difficult area to bridge. The iron bridge was at least the fifth attempt. When the first attempt was lost in an 1808 flood. Judge James Findley, a local and “the Father of Modern Suspension Bridges” built a new bridge in 1809. It collapsed during a snow storm in 1820, taking a wagon and team with it.

The first two timber bridges at this location “collapsed under extreme weather conditions” in 1808 and 1812. The third timber bridge was in bad enough shape by 1832 that the Army Corps of Engineers specified an iron bridge. The design was supplied by Captain Richard Delafield. He was influenced by French iron bridge design, and his training was from West Point, which taught French Civil Engineering practices. Rather than another ill-fated wooden bridge or a masonry structure, Delafield pushed for an Iron bridge. It hadn't been done in the U.S. as of then, and he wanted to be the first to do it.

In 1843, it was referred to as “the most splendid piece of bridge architecture in the United States.”

The bridge covers 80 feet in one span with an 8 foot rise, and was constructed in 1836-39. The wrought iron for the bridge was supplied by the Vulcan Iron Works & Machine Works, owned and operated by John Snowdon, in Brownsville. The bridge has survived to this day, and is in current use. According to the Historic American Engineering Record (HAER) report, this is probably due to the high quality of the iron. A new bridge on Route 40 spans the Monongahela just north of the Dunlop's Creek Bridge.

The cast iron used in the construction was from the Herbertson Foundry in Brownsville, using Ohio pig iron. There were 250 castings, and over 300,000 pounds of iron were used, not including the floor plates. Brownsville had the largest concentration of foundries anywhere along the road, except possibly for Wheeling, for steamboat construction. The manufacturing facilities and the skilled craftsmen were available locally for the bridge project. It was built with standardized, interchangeable, factory-manufactured parts, and constructed at the site. The American Society of Civil Engineers describes the five arched ribs of the bridge as “tubular sections that closely resemble the cylinders being made at the time for steamboat engines.”

Brownsville was first settled in 1765, and served as a trading post in the period after the Revolutionary War. It's 40 miles south of Pittsburgh, and on the path of the Westward migration. The National Road, now Route 40, passed through the Town, and the Monongahela River needed bridging. It was an industrial center, transportation hub, and construction site for steam-powered riverboats. It was the gateway of the U.S.'s new Northwest Territory (all the territory west of Pennsylvania, and North of the Ohio), some quarter million square miles.

In 1818, John Snowdon arrived in Brownville from Scarborough, England. He apprenticed at a local foundry, and opened his own machine shop and rolling mill. He produced steam engines for the river boats, including the *Monongahela* in 1827. The facility was extended in 1831, but burned in 1853. The replacement facility included a forge, rolling mill, pattern shop, foundry, and finishing shop on an acre of land on the back of the Mon. The new buildings were now constructed of brick.

There has been a recent breakthrough discovery by the Society for Pennsylvania Archaeology, Mon-Yough Chapter #3, in Brownsville, Pa. They recently announced they have located and begun excavation of Snowdon's Vulcan Iron Works & Machine Works in the Town. This is ongoing, as of this writing. In addition, Snowdon teamed with Brownsville boat builder Albert Mason to construct ironclads for the Union Navy during the Civil War, at a new facility in Pittsburgh.

The bridge survives, and carries traffic to this day, with no weight restrictions. It now has a new concrete deck, and steel I-beam supports have been added. It is listed as a National Historical Civil Engineering Landmark. Nice job, Captain Delafield.

In 2014, the 175 year-old bridge underwent a renovation by the Pennsylvania Department of Transportation. The bridge is now located on what is called Market Street in Brownsville. Originally constructed for $39,000, the renovation is budgeted for $3.7 million.

There is a City Park in Brownsville, named for IronMaster Snowdon.

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Author

Mr. Patrick H. Stakem is a native of Cumberland, now residing in Laurel, MD. He has researched extensively and written about topics such as the C&O Canal, the B&O Railroad, the Lonaconing and Mount Savage Iron furnaces, and Fort Cumberland. He thought he was quite the expert on the National Road and iron bridges until he tripped across the information for this article, while looking for something else.

He was researching the Snowdon Iron Works near his house, a pre-revolutionary war facility. He found the Brownsville facility during a search for the name. He is attempting the connect the two Snowdons. He did a visit to the bridge in September of 2018.